Multi-Specialty Recruitment Assessment (MSRA)

Test Blueprint & Information

Updated December 2022

Contents

Overview of the Multi-Specialty Recruitment Assessment (MSRA)

The Multi-Specialty Recruitment Assessment (MSRA) is a computer-based assessment which is currently used by a number of specialties for entry into post-graduate medical training (please see appendix 1 for references):

- Acute Care Common Stem Emergency Medicine
- Anaesthetics
- Broad Based Training
- Community and Sexual Reproductive Health
- General Practice
- Neurosurgery
- Nuclear Medicine
- Obstetrics and Gynaecology
- Ophthalmology
- Psychiatry (Core and CAMHS)
- Radiology
- Core Surgery

The MSRA is a widely used assessment tool within healthcare. It demonstrates a high level of predictive validity[1] across a range of specialties and healthcare settings. The MSRA offers an advantage over other selection methodologies sometimes used for specialty recruitment (e.g. interviews, personal statements), in that it is a standardised method of selection which is less susceptible to biases and measurement error[2]. The MSRA follows a structured development process which allows for replicability. There are also a number of steps taken to ensure the test is as fair as possible for all groups (see pages 12 -13 for an overview of the design process).

For more information about why and how the MSRA is used for the specialty to which you are applying, please refer to your relevant **specialty recruitment website** (Appendix 1).

Appendix 2 shares some frequently asked questions (FAQs) about the MSRA that you might find useful.

[1] Botan, Vanessa, Williams, Nicki, Law, Graham R. et al (2022) *How is performance at selection to general practice related to performance at the endpoint of GP training?* Project Report. University of Lincoln, Lincoln.
[2] Cleland, Dowell, McLachlan, Nicholson and Patterson, 2012

Structure of the Multi-Specialty Recruitment Assessment (MSRA)

There are two parts to the MSRA; a Professional Dilemmas (PD) paper, followed by a Clinical Problem Solving (CPS) paper.

Both parts of the MSRA are designed to **assess those with a foundation level of competence**. The PD paper provides scenarios in the workplace for applicants to demonstrate their judgement about the most appropriate behaviours in that context. The PD content directly relates to the Generic Professional Capabilities framework outlined by the GMC, which are required capabilities of all doctors[3]. The CPS is a test of how candidates can apply their clinical knowledge to make clinical decisions and is based on the Foundation Programme curriculum[4]. **Therefore, the MSRA is relevant and fair for doctors applying for any medical specialty.**

1. **Professional Dilemmas (PD)**

   - The PD paper is a Situational Judgement Test (SJT). Situational Judgement Tests are a measurement method designed to **assess judgement in work-relevant situations**. They measure key attributes viewed as essential to successful performance within the role and beyond. The PD part of the assessment focuses on a candidate's approach to working as a doctor. Specifically, the paper measures one's understanding of situations that arise for doctors in the NHS (during a Foundation Placement) and judgement in choosing more or less appropriate responses to that situation. It focuses on appropriate behaviours when interacting with patients and colleagues and in managing one's work. It **does not require specific knowledge of experience in specialty training** but does assume general familiarity with typical primary/secondary care work.

2. **Clinical Problem Solving (CPS)**

   - In the CPS part of the assessment, candidates are presented with clinical scenarios that require them to **exercise judgement and problem solving skills** to determine appropriate diagnosis and management of patients. This is not a test of knowledge as such, but rather one's **ability to apply** it appropriately. The items are based on Foundation-level clinical practice, and test higher level knowledge synthesis of medical knowledge.

Overview of number of questions in the Exam

Component	Number of Questions	Breakdown of questions	Time available
PD	50	42 Operational & 8 Pilot[5]	1 hour and 35 minutes (95 minutes)
CPS	97	86 Operational & 11 Pilot	1 hour and 15 minutes (75 minutes)

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[3] Generic professional capabilities framework May 17 (gmc-uk.org)
[4] Curriculum - UK Foundation Programme
[5] Operational items contribute to a candidate's total MSRA score, whereas pilot items do not but are items that are being trialled before future operational use.

About the Professional Dilemmas Paper (50 items, 95 mins)

The PD paper is a Situational Judgement Test (SJT). An SJT is an assessment method which measures how a candidate believes they should behave when posed with a challenging professional dilemma. It is not a test of knowledge of problem-solving ability, but rather aims to assess professional attributes (i.e. domains; see page 5) which are considered to be important for successful progression through training and performance in one's job role.
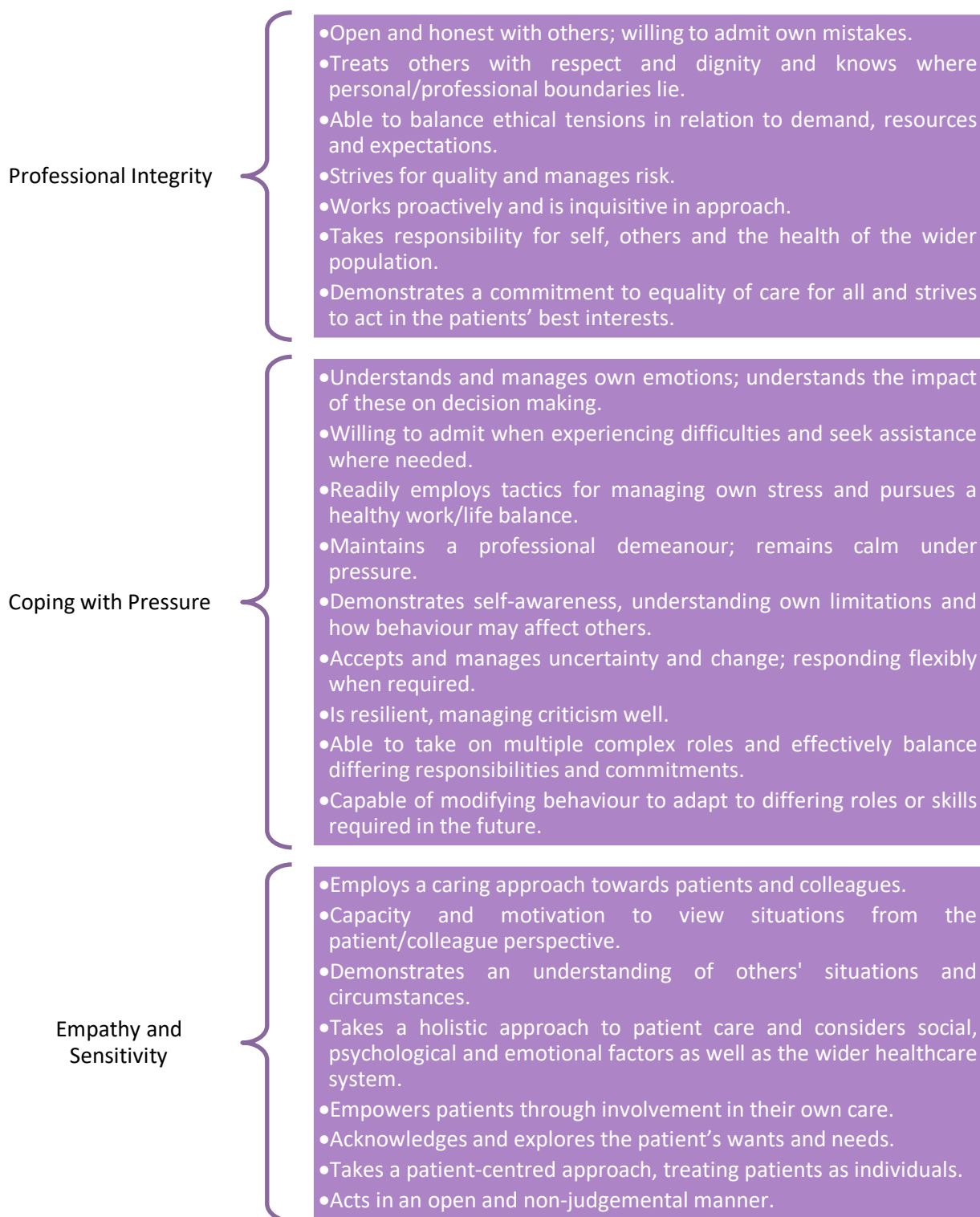
1. **The Context/Setting of the PD**

   - As the PD test is a measure of aptitude for entry to specialty training, it is **set within the context of the Foundation Programme,** with the candidate assuming the role of an F2 doctor. Although the candidate is asked to assume the role of a F2 doctor, each scenario is reviewed by Subject Matter Experts (SMEs)[6] to ensure that the scenario does not contain any knowledge of procedures or policies that would only be applicable in certain localities or that are very UK-specific, as this would disadvantage certain candidates (i.e. International Medical Graduates).

   - The questions are based within a range of contexts and rotations that a Foundation Doctor would realistically find themselves in. **Therefore, there is a mixture of items based in settings such as:** hospital settings (across a variety of wards/placements), general practice, out-of-hours clinics, as well as a few based outside of a medical context (where relevant). This is to increase validity and ensure that the PD is relevant to candidates applying to any specialty.

   - Even where a setting is specified in the question, this has only been chosen to provide a context, but **the judgement required to answer the question is not specific to that setting.** For example the question may be set on the Psychiatric ward however, the dilemma and subsequent judgement you will be required to make will be applicable to other wards and will not be specific to the Psychiatric ward (please see sample paper for examples).

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[6] A Subject Matter Expert (SME) is an individual who has a deep understanding of the role(s), with sufficient experience to provide insight into what is expected of practitioners in a range of challenging situations. This includes people who are very experienced within the role and/or have experience of training others.

2. Target Domains Measured

- The PD test covers **three core domains**. All questions measure one of these domains. Behavioural indicators linked to each domain are outlined below:

Professional Integrity

- Open and honest with others; willing to admit own mistakes.
- Treats others with respect and dignity and knows where personal/professional boundaries lie.
- Able to balance ethical tensions in relation to demand, resources and expectations.
- Strives for quality and manages risk.
- Works proactively and is inquisitive in approach.
- Takes responsibility for self, others and the health of the wider population.
- Demonstrates a commitment to equality of care for all and strives to act in the patients' best interests.

Coping with Pressure

- Understands and manages own emotions; understands the impact of these on decision making.
- Willing to admit when experiencing difficulties and seek assistance where needed.
- Readily employs tactics for managing own stress and pursues a healthy work/life balance.
- Maintains a professional demeanour; remains calm under pressure.
- Demonstrates self-awareness, understanding own limitations and how behaviour may affect others.
- Accepts and manages uncertainty and change; responding flexibly when required.
- Is resilient, managing criticism well.
- Able to take on multiple complex roles and effectively balance differing responsibilities and commitments.
- Capable of modifying behaviour to adapt to differing roles or skills required in the future.

Empathy and Sensitivity

- Employs a caring approach towards patients and colleagues.
- Capacity and motivation to view situations from the patient/colleague perspective.
- Demonstrates an understanding of others' situations and circumstances.
- Takes a holistic approach to patient care and considers social, psychological and emotional factors as well as the wider healthcare system.
- Empowers patients through involvement in their own care.
- Acknowledges and explores the patient's wants and needs.
- Takes a patient-centred approach, treating patients as individuals.
- Acts in an open and non-judgemental manner.

3. Item Types / Formats Used in the PD

- There are **50 scenarios** in the PD paper, 42 operational and 8 pilot.
- There are **two parts** in PD test, each with different types of questions. The first part of the PD paper is made up of **Ranking** questions, the second part of the PD test is made up of **Multiple Choice** questions. Around half of the questions are 'rank options in order' and the other half are 'multiple choice'.
- All PD items start with a **scenario (or stem)** and then have a set of response options in either a **ranking** or **multiple choice format** (see table below for description of item types). The stem will describe an event which has occurred and an obstacle that makes the event more challenging to resolve. The candidate is then required to make a judgement.
- The majority of scenarios are **actions taken to address the situation.** Some scenarios may also ask candidates to rank the order of actions, importance of considerations or extent to which they agree with the response options.
- Each of the response options measures one of the three target domains outlined above.
- Response options will be realistic and the 'best response' will always be included. For scenarios where the candidate is asked to consider the appropriateness of actions (whether ranking or multiple choice), there will be a mixture of good, acceptable and poor responses to the situation, as judged by SMEs. Completely implausible responses are not included.
- The response options may not be the actions you feel you would initially take in the scenario however, please rank/select the most appropriate responses based on the set of pre-determined options available.
- The table below describes the PD item types used within the **two parts** of PD test.

Item Type	Lead In Example	Description of Item Type
Part 1 - Ranking	i.e. *'Rank in order the following actions in response to this situation (1= Most appropriate; 5= Least appropriate/ 1= Most appropriate; 4 =Least appropriate).*	Candidates are asked to judge the appropriateness of **four or five** independent actions. These scenarios require the candidate to think about the appropriateness of each of the different options presented. **For these scenarios the actions are discrete actions and should not be thought of as chronological.**
Part 2 – Multiple Choice	i.e. *'Select the THREE most appropriate actions to take in this situation'*.	Candidates are asked to select three most appropriate actions to take in combination, out of a total of eight plausible actions. These scenarios require the candidate to think about the appropriateness of each of the options presented. **The three most appropriate actions taken together should resolve the situation.**

4. Key differences between ranking and multiple choice items

- A comparison table is presented below with key differences between the ranking and multiple choice item types:

Ranking Items (Rank 4 or 5 options)	Multiple choice Items (Choose 3 correct options)
The correct response involves a single action	The correct response involves doing a combination of 3 actions
The response options are equivalent actions that differ in appropriateness	3 actions together make an appropriate response and show different aspects of judgement relating to the target domain
Are usually 'standalone' options rather than chronological (not in order of how they should be done)	Are combined with other responses to form an appropriate response
Each option resolves the dilemma on its own, to a greater of lesser extent	Each option is combinable with other response options to form a response that resolves the dilemma to a greater or lesser extent.

- An example of a Ranking Item is presented below (there are more examples of questions in the MRSA practice paper):

> You are a Foundation (F2) doctor working on a busy orthopaedic ward. During an evening shift one of the nurses asks to speak to you in confidence. She is concerned about one of your F2 colleagues, James. The nurse tells you that she has observed James making several mistakes today and when she told him this he burst into tears and said he couldn't cope with his workload.
>
> *Rank in order the following actions in response to this situation (1=Most appropriate; 5= Least appropriate).*
>
> A. Discuss distribution of workload with the junior medical team
> B. Speak to James about the nurse's concerns
> C. Suggest the nurse advises James to make an appointment with occupational health as soon as possible
> D. Suggest that the nurse contacts your consultant to discuss her concerns about James
> E. Seek advice from your seniors as to how to support James

- An example of a Multiple Choice Item is presented below (there are more examples of questions in the MRSA practice paper):

> You are a Foundation (F2) doctor working in urology. You have just led a teaching session with the medical students. You had prepared a presentation especially for the session. Your consultant tells you that the feedback from the medical students was poor.
>
> *Choose the **THREE most appropriate actions** to take in this situation.*
>
> A. Ask for feedback from your F2 colleagues on your teaching skills.
> B. Ask the consultant for more detailed feedback.
> C. Arrange training on presentation skills from the hospital IT department.
> D. Ask an F2 colleague to help you practice your next teaching session.
> E. Do more reading on the subject in preparation next time.
> F. Ask your consultant to observe you in your next teaching session.
> G. Include this experience as a reflective entry in your Foundation portfolio*.
> H. Discuss this experience with your educational supervisor.

5. The PD Scoring Process

- PD scenarios are scored against **pre-determined** keys that have been determined throughout the development process (see page 12 for more information on the item development process). This means the scoring of the test is standardised and fair to all candidates.

- **Scoring Ranking Scenarios:** The items in the ranking section (Part 1) require candidates to rank a series of options in response to a given situation. Answers are marked by comparing a candidate's response to the pre-determined key. The closer a candidate's response is to the pre-determined key, the more marks are awarded. A candidate does not need to get every option in exactly the same order as the pre-determined key to obtain a good score on an SJT item. The table below illustrates how many marks are available per response and scenario.

- **Scoring Multiple Choice Scenarios:** The items in the multiple choice section (Part 2) require candidates to select three response options from a minimum of eight possible responses, which together are the most appropriate response to the given situation. As with ranking items, answers are marked by comparing a candidate's response to the pre-determined key. The table below illustrates how many marks are available per response and scenario.

- **There is no negative marking on either of the PD question types, therefore it is strongly recommended that all questions are attempted.**

	Maximum marks available per response	Response required	Maximum marks available per scenario
Part 1 - Ranking	4	Rank 4 or 5 in order	20
Part 2 - Multiple choice	4	Choose 3 out of 8	12

About the Clinical Problem Solving Paper (97 items, 75 mins)

The Clinical Problem Solving (CPS) paper is an assessment which measures the candidate's ability to apply their clinical knowledge and make clinical decisions in everyday practice. The scenarios are based on Foundation-level clinical practice, and are testing a candidate's ability to synthesise and apply medical knowledge (not just their recall of knowledge).

1. **The Context/Setting of the CPS**

   - CPS items are based in **12 clinical topic areas** relevant to general medicine and each test paper includes a balance of scenarios which cover all 12 topics. The topics covered include:

Cardiovascular	Dermatology / ENT / Eyes	Endocrinology / Metabolic	Gastroenterology / Nutrition
Infectious disease / Haematology / Immunology / Allergies / Genetics	Musculoskeletal	Paediatrics	Pharmacology & Therapeutics
Psychiatry / Neurology	Renal/Urology	Reproductive	Respiratory

   - Scenarios are all relevant to the Foundation (F2) training programme. Where a setting is specified in the question, this has only been chosen to provide a context; but the judgement required to answer the question is not specific to that setting.

   - The CPS will assess your ability to **apply your clinical knowledge** in a relevant context and make clinical decision in everyday practice.

2. **Target Domains Measured**

   - The test covers **five core domains.** The domains and their definitions are provided below:

     1) **Investigation**: *specific investigations that are carried out in order to obtain a more conclusive diagnosis, or rule out possible causes of illness/injury*

     2) **Diagnosis**: *identification of a condition, disease or injury made by evaluating the symptoms and signs presented by a patient*

     3) **Emergency**: *potential serious illness requiring an immediate response (recognising patient risk based on suggested factors)*

     4) **Prescribing**: *advising, authorising or reviewing the use of medicine/drugs as part of a patient's clinical management plan*

5) **Management (non-Prescribing)**: *advising, authorising or reviewing the use of other forms/methods of treatment (not medicinal/drug-related) as part of a patient's clinical management plan*

3. Item Types / Formats Used in the CPS

- There are **97 items** in the CPS paper (86 operational and 11 pilot). Around half of the items are **Extended Matching Questions (EMQ)** and the other half are **Single Best Answers (SBA)**.

- The table below details the CPS item types:

Item Type	Lead In Example	Description of Item Type
Extended Matching Question (EMQ)	i.e. *'For each patient, please select the most appropriate drug to prescribe'*.	EMQs refer to multiple clinical scenarios that are linked to the same set of response options. Candidates are presented with a list of 6-12 plausible response options. Candidates will need to select the most appropriate or likely answer for each clinical presentation. **Each response option can be selected once, more than once or not at all when responding to the set of cases.**
Single Best Answer (SBA)	i.e. *'Select the SINGLE most appropriate diagnosis from the list below'*.	Candidates are asked to select the single most appropriate or likely answer out of 5- 8 plausible responses for one clinical presentation.

- An example of an Extended Matching Question (EMQ) is presented below (there are more examples of questions in the MRSA practice paper):

Tremor and tingling

A.	Acromegaly	E.	Hypoadrenalism
B.	Diabetes	F.	Hypoparathyroidism
C.	Hyperthroidism	G.	Hypopituitarism
D.	Hypothyroidism		

*For each patient, what is the **SINGLE** most likely diagnosis?*
*Select **ONE** option only from the list above. Each option may be selected once, more than once, or not at all.*

1. A 58 year old woman develops a tremor, and has repeated episodes of breathlessness associated with tachycardia.

2. A 44 year old woman develops tingling in her fingers 3 days after a total thyroidectomy for papillary carcinoma of the thyroid.

- An example of a Single Best Answer (SBA) question is presented below (there are more examples of questions in the MRSA practice paper):

> A 17 year old student suddenly develops chest pain and dyspnoea after a morning swim. His trachea is deviated to the left. There is hyper-resonance and decreased breath sounds on that side.
>
> Select the **SINGLE** most likely **diagnosis** from the list below. Select **ONE** option only.
>
> A. Asthma
> B. Left ventricular failure
> C. Pneumothorax
> D. Pulmonary Embolus
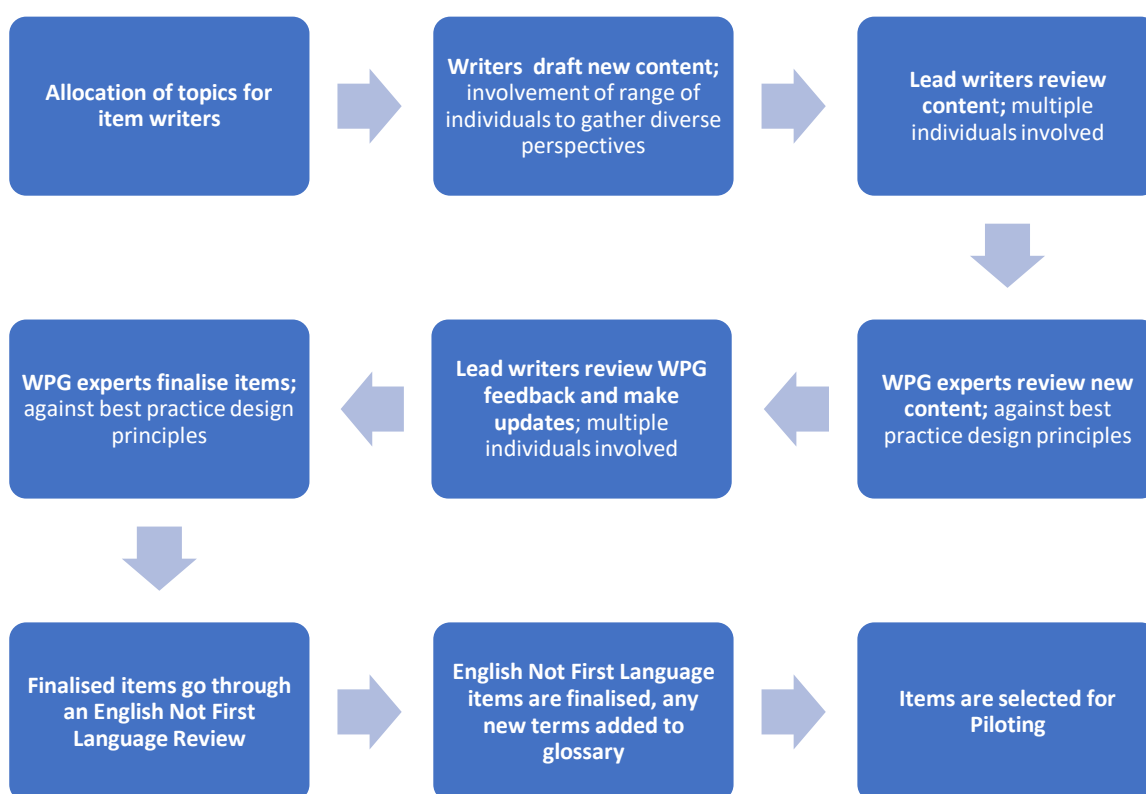> E. Pulmonary haemorrhage

4. The CPS Scoring Process

- For each item across both types of CPS items, **1 mark** is awarded for choosing the correct response.
- **There is no negative marking on either of the CPS item types, therefore it is strongly recommended that all questions are attempted.**

The MSRA Design and Development Process

1. Design and Development of MSRA Content

- A well-established team of trained item writers, including **representation from each of the specialties** that use the MSRA in their selection processes, develop new content year on year. Some of this content is then piloted alongside the live tests. As new specialties join the MSRA, they are invited to participate and engage with the process in order to enhance the overall validity of the test and to ensure that content it relevant for all applicants.

- The item development process is summarised below:

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┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ Allocation of topics│ ──>  │ Writers draft new   │ ──>  │ Lead writers review │
│ for item writers    │      │ content; involvement│      │ content; multiple   │
│                     │      │ of range of         │      │ individuals involved│
│                     │      │ individuals to      │      │                     │
│                     │      │ gather diverse      │      │                     │
│                     │      │ perspectives        │      │                     │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
                                                                    │
                                                                    v
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ WPG experts finalise│ <──  │ Lead writers review │ <──  │ WPG experts review  │
│ items; against best │      │ WPG feedback and    │      │ new content; against│
│ practice design     │      │ make updates;       │      │ best practice design│
│ principles          │      │ multiple individuals│      │ principles          │
│                     │      │ involved            │      │                     │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
         │
         v
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ Finalised items go  │ ──>  │ English Not First   │ ──>  │ Items are selected  │
│ through an English  │      │ Language items are  │      │ for Piloting        │
│ Not First Language  │      │ finalised, any new  │      │                     │
│ Review              │      │ terms added to      │      │                     │
│                     │      │ glossary            │      │                     │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
```

- All new items undergo a **thorough review process** that includes a review by a nominated clinician, and further review and refinement by the team of SME item writers. At each stage, items are reviewed for **fairness and relevance**. Reviews also take place to ensure that each item is appropriate for all candidates in terms of language used (items undergo an **English Not First Language review**) and that locality-specific knowledge is not tested. This ensures that the items are fair to all candidates.

- Once items are piloted, they are reviewed again by a statistician to establish their **psychometric performance and** undergo a further review from the SMEs. Consideration is given to how the best performing candidates answered the items, how candidates responded to each of the distractors (i.e. incorrect response options), the item's correlation with live test performance, the item's level of difficulty and ability to differentiate

candidates' performance, and whether it appears to be favouring any particular demographic groups (i.e. Differential Item Functioning).

- For PD items only, concordance analysis is conducted in order to identify levels of agreement between experts on the scoring key for each item, where SMEs complete the items from a F2 perspective. This ensures that there is consistent view on the answer key.

- Following satisfactory performance, successful items can enter the **operational item bank.**

Useful Resources and Information

- Familiarise yourself with the testing platform. A generic tutorial is available to allow you to familiarise yourself with the controls and screen layouts in advance. This can be found here Pearson VUE - Athena (pvue2.com)

- Learn about what to expect on the day. A video on what to expect if taking the test at a test centre can be found here What to expect on test day :: Video :: Pearson VUE

- Read the applicant guidance provided by your speciality recruitment office.

- Familiarise yourself with the MSRA by completing the MSRA Practice Paper, this can be found here Multi-Specialty Recruitment Assessment (MSRA) | Medical Education Hub (hee.nhs.uk). HEE and WPG do not endorse any third-party practice material.

- A glossary of frequently used terms and a list of abbreviations is available for reference throughout the exam. This is particularly useful for those less familiar with the UK medical system. The glossary and abbreviations list that will appear in the test will be made available ahead of the exam.

- On the day of completing the MSRA, read the instructions and questions carefully. There may be times when you would like more information to answer questions; you need to give your best answer using **only** the information provided in the question.

- Papers are **NOT negatively marked** so **make sure you answer all the questions**. In the PD paper a wrong answer can score more marks than a missed question, as the answers are based on a near-miss approach.

Appendix 1: Links to Specialty Pages

1. [Recruitment into anaesthesia | The Royal College of Anaesthetists (rcoa.ac.uk)](#)
2. [Broad Based Training (scot.nhs.uk)](#)
3. [Home - Faculty of Sexual and Reproductive Healthcare (fsrh.org)](#)
4. [2022 National Recruitment – EM ACCS | RCEM](#)
5. [General Practice (GP) | Medical Education Hub (hee.nhs.uk)](#)
6. [National Neurosurgery ST1 & ST2 Recruitment | Health Education Yorkshire and Humber (yorksandhumberdeanery.nhs.uk)](#)
7. [Nuclear medicine | ST3 Recruitment - Full, comprehensive guidance on applying to ST3 posts (phstrecruitment.org.uk)](#)
8. [National Obstetrics and Gynaecology Recruitment | Health Education North West (nwpgmd.nhs.uk)](#)
9. [Become an Ophthalmologist | The Royal College of Ophthalmologists (rcophth.ac.uk)](#)
10. [Psychiatry | Medical Education Hub (hee.nhs.uk)](#)
11. [Specialty recruitment | The Royal College of Radiologists (rcr.ac.uk)](#)
12. [Surgery | Medical Education Hub (hee.nhs.uk)](#)

Appendix 2: Frequently Asked Questions (FAQs)

1. How long is the MSRA

For the PD paper you will have 1 hour 35 minutes (95 minutes) to complete 50 items. For the CPS paper you will have 1 hours 15 minutes (75 minutes) to complete 97 items. Please see you specialty applicant guidance for detail on additional time in line with the Equality Act 2010 disability accommodation requirements.

2. How do I prepare for the MSRA?

Familiarise yourself with the testing platform and read your speciality applicant guidance. Complete the practice paper so that you are familiar with the style and format of the questions that you will be presented with. Links to these can be found in the useful resources and information section of this document. HEE and WPG do not endorse any third-party practice material.

3. What is a Situational Judgement Test (SJT)?

SJTs are a measurement method designed to assess individuals' judgement regarding situations encountered in the role. You are presented with a set of hypothetical based scenarios and asked to make judgements about possible responses. These scenarios are based on a detailed analysis of the role and are developed through collaboration with Subject Matter Experts. Your responses are evaluated against a pre-determined scoring key to provide a picture of your situational judgement.

4. When will I find out my score?

Please refer to your specialty website (appendix 1) and your specialty MSRA applicant guidance (linked in useful resources and information section) for information on notification of scores.

5. How is my MSRA score going to be used as part of my application?

The way in which the MSRA is used will depend on the specialty(s) you are applying to. Please see the specialty websites (appendix 1) for more information.